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EXAMINER				
SINGH, SUNIL K				
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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/691,470
Filing Date: October 22, 2003
Appellant(s): KENNARD, DON

Rabinder Narula
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 07/06/2010 appealing from the Office action mailed 03/03/2010.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

NEW GROUND(S) OF REJECTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 39,40,43,44,48,56,57 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Nardi et al. (US 5,520,540).

Nardi discloses a dental implant that includes: an abutment (1) that is capable of being adapted with a dental prosthesis; a bendable neck segment (where 2b points at in Figure 6) connected to the abutment (Fig. 6); wherein the bendable neck section is capable of being bent such that the body segment is positioned within a patient's jawbone and the bendable neck segment can be bent to adjust the angle of the abutment; so that the a body segment (10) connected to the flexible neck segment (Fig.5); the body segment (10) having threads extending helically about the implant axis, the thread diameter tapering non-linearly from a maximum adjacent the neck segment to a minimum at a distal end (Fig. 5); a torque engagement segment (11) that is capable of being configured to engage a torque-imparting tool; wherein the torque segment comprises a plurality of flat surfaces on an outer surface of the torque segment (Fig. 5); wherein the threaded body segment (10) comprises an upper flared section proximal to the neck portion (Fig. 5 that is reproduced below); an intermediate section and a tapered lower section distal from the neck segment (Fig. 5); the lower section having a smaller angle of taper as compared to the upper section (Fig. 5) (note that the claims do not call for a tapered upper portion); wherein the neck section is more narrow than both of the upper flared section of the body segment and the abutment (Fig. 5); wherein the neck segment has a plurality of flat facets on the outer surface (Fig. 2); wherein the threads of the intermediate section of a constant diameter (Fig. 5); wherein

the length of the body segment is approximately equal to the thickness of the cortical layer of the bone. However, Nardi fails to disclose a monolithic implant. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Nardi to make monolithic, since it has been held that it involves no invention to cast in one piece an article which has formerly been cast in multiple pieces and put together and that such a modification involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893).

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

5,520,540	Nardi et al.	5-1996
5,074,790	Bauer	12-1991
3,466,748	Christensen	9-1969

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 39,40,43,44,48,56,57 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Nardi et al. (US 5,520,540).

Nardi discloses a dental implant that includes: an abutment (1) that is capable of being adapted with a dental prosthesis; a bendable neck segment (where 2b points at in Figure 6) connected to the abutment (Fig. 6); wherein the bendable neck section is capable of being bent such that the body segment is positioned within a patient's jawbone and the bendable neck segment can be bent to adjust the angle of the abutment; so that the a body segment (10) connected to the flexible neck segment (Fig.5); the body segment (10) having threads extending helically about the implant axis, the thread diameter tapering non-linearly from a maximum adjacent the neck segment to a minimum at a distal end (Fig. 5); a torque engagement segment (11) that is capable of being configured to engage a torque-imparting tool; wherein the torque segment comprises a plurality of flat surfaces on an outer surface of the torque segment (Fig. 5); wherein the threaded body segment (10) comprises an upper flared section proximal to the neck portion (Fig. 5 that is reproduced below); an intermediate section and a tapered lower section distal from the neck segment (Fig. 5); the lower section having a smaller angle of taper as compared to the upper section (Fig. 5) (note that the claims do not call for a tapered upper portion); wherein the neck section is more narrow than both of the upper flared section of the body segment and the abutment (Fig. 5); wherein the neck segment has a plurality of flat facets on the outer surface (Fig. 2); wherein the threads of the intermediate section of a constant diameter (Fig. 5); wherein the length of the body segment is approximately equal to the thickness of the cortical

layer of the bone. However, Nardi fails to disclose a monolithic implant. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Nardi to make monolithic, since it has been held that it involves no invention to cast in one piece an article which has formerly been cast in multiple pieces and put together and that such a modification involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1993).

Claims 41,42,45-47,49-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nardi in view of Bauer (US 5,074,790).

Nardi discloses the invention substantially as claimed except for a device that includes: thread diameter is within the range of 1-3mm; threads of the upper flared section that define a taper angle between about 6 and 14 degrees and between 3 and 7 degrees; wherein the neck segment has a length greater than 5 mm; wherein the body segment is about 12 mm in length; wherein the total length along the implant axis is greater than 20 mm.

Nardi teaches an implant having thread diameters within the range of 1-3 mm (column 4, line 16). It would have been obvious to one having ordinary skill in the art to modify Nardi to include the thread diameter range as taught by, Bauer, since such a diameter range is well known in the art. It also would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Nardi to include a flared section with the various claimed ranges of angles, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See *In re Aller*, 105

USPQ 233. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Nardi to include a body/neck segment and a total implant length at the various claimed values; since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. See *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Claims 53-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nardi in view of Christensen (US 3,466,748).

Nardi disclose a dental implant that shows the limitations as described above; however, Nardi does not show the thread depth tapering and wherein the maximum thread depth is between about 0.5 mm and 0.7 mm and wherein the pitch is 0.8mm to 1.8mm.

Christensen shows a dental implant having a thread depth tapering from a maximum thread depth adjacent the neck segment to a minimum thread depth adjacent the distal end (Fig. 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the thread depth of Christensen in order to increase stability and decrease patient trauma in view of Christensen. It would have been an obvious matter of choice to one of ordinary skill in the art as to the specific depth and pitch of the body segment. Furthermore, to modify Nardi/Christensen to include a thread depth and pitch having the claimed ranges would have been obvious to one having ordinary skill in the art, since it has been held that where the general

conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See *In re Aller*, 105 USPQ 233.

(10) Response to Argument

The Examiner notes that the new grounds of rejection are just to clarify by further defining what the Examiner is calling the "abutment" element in Nardi et al.'s patent.

The Appellant argues that Nardi cannot be modified to be monolithic because the abutment is a ball and socket arrangement and that it needs to be two elements in order to allow the elements to pivot. The Examiner agrees, however, the Examiner has further clarified the abutment element (in the new grounds of rejection) to be a the sphere (1) shown in Figure 6 that is monolithically joined to the remainder of the body (also stated in the abstract). Nardi discloses a further superstructure (4) that the abutment is placed in (the ball and socket joint); however, the Examiner is not relying on the "socket" piece to be the abutment, but rather the spherical male piece (1) shown in Figure 6. The Appellant uses the transitional phrase "comprising" and therefore allows the prior art to be open for additional elements. Therefore, the superstructure (4) is an additional element that is being included onto the implant of Nardi and not part of the implant that is being modified to be monolithic. However, the Examiner, still relies on the case law to make the one-piece pin (2) monolithic with the body (9), although Nardi does suggest that the piece is already monolithic in column 3, lines 46-53.

The Appellant further argues that there is no motivation to make the implant monolithic. This argument is moot since it has been clarified and addressed in the new grounds of rejection.

The Appellant further argues that the examiner did not address the bendable neck section in Final office action; however, this argument is addressed in the Final rejection where the Examiner points out that the neck is capable of bending. The Appellant further alleges that the Examiner omitted such a limitation in the office action because there is no reason to make Nardi's neck portion bendable. However, the Examiner is not modifying the Nardi for the neck portion to be bendable since Nardi already discloses such a limitation (see rejection above). The Appellant is not claiming that the neck portion is bent, but rather that the neck portion is bendable which implies the capability of being bent. Therefore, it is the Examiner's position that Nardi meets the limitation since the neck portion of Nardi is capable of being bent whether by a tool or by hand. The Examiner notes that the material being used in Nardi is the same material that the Appellant's implant is made of, titanium. Such a material certainly has the capability of bending (as disclosed in the Appellants' own specification). Bendability is a relative term, particularly since virtually anything will flex/bend if enough pressure is applied to it. The neck portion (2b) as shown in Figure 6 illustrates a thin piece that is capable of being bent if enough pressure is placed on that portion. Furthermore, one would bend the neck portion in order to further alter the angular position of the abutment relative to the patient's gum so that the user may properly position the dental prosthesis.

The Appellant further argues that Bauer and Christensen do not teach the flexible portion being positioned above the torque-engagement section. However, the Examiner notes that Bauer and Christensen are not being relied upon to teach that limitation. The Examiner further notes, that the Appellant is referring to Figure 6 of Christensen in his arguments. However, that particular figure belongs to a different prior art that was not relied upon in the Final Office Action.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

This examiner's answer contains a new ground of rejection set forth in section (9) above. Accordingly, appellant must within **TWO MONTHS** from the date of this answer exercise one of the following two options to avoid *sua sponte* **dismissal of the appeal** as to the claims subject to the new ground of rejection:

(1) **Reopen prosecution.** Request that prosecution be reopened before the primary examiner by filing a reply under 37 CFR 1.111 with or without amendment, affidavit or other evidence. Any amendment, affidavit or other evidence must be relevant to the new grounds of rejection. A request that complies with 37 CFR 41.39(b)(1) will be entered and considered. Any request that prosecution be reopened will be treated as a request to withdraw the appeal.

(2) **Maintain appeal.** Request that the appeal be maintained by filing a reply brief as set forth in 37 CFR 41.41. Such a reply brief must address each new ground of

rejection as set forth in 37 CFR 41.37(c)(1)(vii) and should be in compliance with the other requirements of 37 CFR 41.37(c). If a reply brief filed pursuant to 37 CFR 41.39(b)(2) is accompanied by any amendment, affidavit or other evidence, it shall be treated as a request that prosecution be reopened before the primary examiner under 37 CFR 41.39(b)(1).

Extensions of time under 37 CFR 1.136(a) are not applicable to the TWO MONTH time period set forth above. See 37 CFR 1.136(b) for extensions of time to reply for patent applications and 37 CFR 1.550(c) for extensions of time to reply for ex parte reexamination proceedings.

Respectfully submitted,

/Sunil K Singh/
Examiner, Art Unit 3732

A Technology Center Director or designee must personally approve the new ground(s) of rejection set forth in section (9) above by signing below:

/Angela D Sykes/

Director, Technology Center 3762

Conferees:

/Cris L. Rodriguez/
Supervisory Patent Examiner, Art Unit 3732

/Tatyana Zalukaeva/

Supervisory Patent Examiner, Art Unit 3761